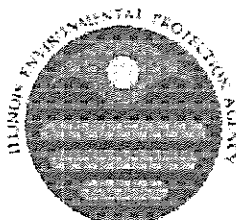
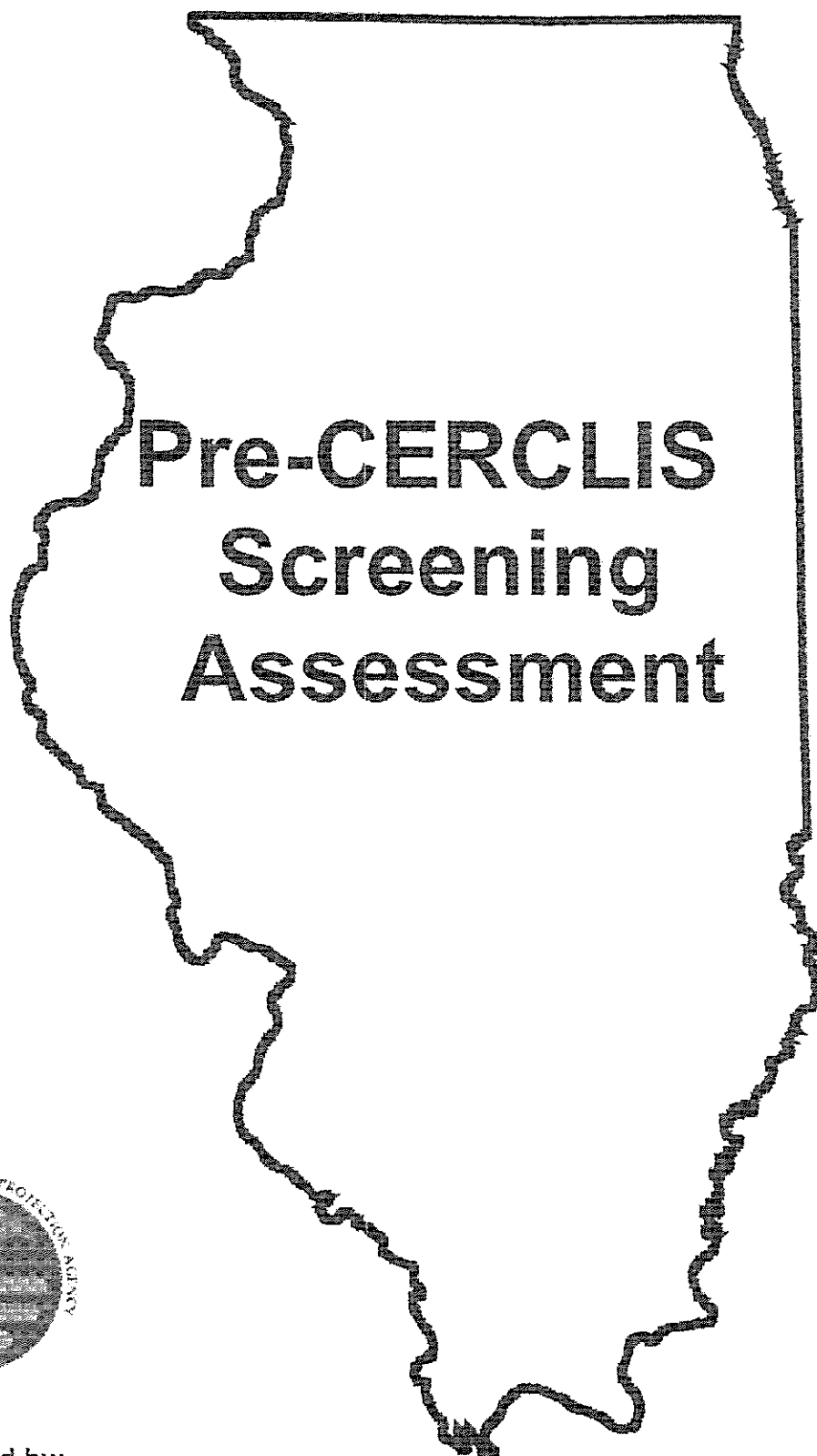


LPC# 1190650003 Madison County  
Magnesium Elektron  
Madison, Illinois  
SF/HRS



Prepared by:  
Office of Site Evaluation  
Division of Remediation Management  
Bureau of Land

SIGNATURE PAGE

Title: Pre-CERCLA Screening Assessment for Magnesium Elektron

Preparer: JoAnn Morgando, Intern, Office of Site Evaluation, Illinois Environmental Protection Agency

JoAnn Morgando  
Signature

4/4/12  
Date

Approval: Patrick Hamblin, Acting Chief, United States Environmental Protection Agency, Region 5

Patrick Hamblin  
Signature

11/14/12  
Date

*The approval signatures on this page indicate that this document has been authorized for information release to the public through appropriate channels. No other forms or signatures are required to document this information release.*

**PRE-CERCLIS  
SCREENING REPORT**

for:

**Magnesium Elektron  
Madison, IL  
LPC119650003**

**PREPARED BY:  
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
BUREAU OF LAND  
DIVISION OF REMEDIATION MANAGEMENT  
OFFICE OF SITE EVALUATION**

February 6, 2012

### Site Investigation

On May 25, 2011, the Illinois Environmental Protection Agency's (IEPA) Office of Site Evaluation received funding from the United States Environmental Protection Agency (U.S. EPA) to conduct a Pre-CERCLIS Screening (PCS) Assessment at Magnesium Elektron on 1001 College Street, Madison, IL.

The Pre-CERCLIS Assessment is a review of information on potential Superfund sites to determine whether the site should be placed into EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). During the assessment, information will be collected in order to complete the Pre-CERCLIS Screening Assessment Checklist/ Decision Form found at the conclusion of the Pre-CERCLIS Screening Assessment. If there is sufficient information that suggests the site may be impacting human health and the environment, the site will be placed in CERCLIS and will progress through the Superfund evaluation process. The Pre-CERCLIS Screening Assessment is performed under the authority of the CERCLIS commonly known as Superfund.

The facility consists of approximately 40 acres, 32 of which are under roof. There are residential homes located with 200-250 feet from the site. Benard Long Elementary School is located 0.1 miles east on College Street from Magnesium Elektron. The site is found in a heavily industrialized area.

Information on the timeline of the facility was found from various resources thus some of the information may not be accurate. When built in the 1940s, the facility processed aluminum and steel. The government commissioned nuclear weapons manufacturing at the site as well. The Center for Disease Control (CDC) reported the facility was owned by Dow Chemical Company from 1954 to 1969. According to the U.S. Army Corp of Engineers, Dow Chemical

worked with Mallinckrodt to process uranium metal for the U.S. Atomic Energy Commission (AEC).

Consolidated Aluminum purchased the facility in 1969. In 1986, Spectrulite purchased the facility. Spectrulite used the facility to cast magnesium and thorium. Magnesium Elektron became property holder in 2003; it supplies magnesium alloys, powders, and product.

In December of 1989, there is record of 5 underground storage tanks (UST) that that contained quench oil and diesel fuel were removed. Monitor wells were installed in the area of the USTs and soil borings were obtained. In 1989, the U.S. Army Corps of Engineers (USACE) found low concentrations of residual uranium contamination in two on site buildings in the overhead structures. In 1992, the site was added to the U.S. Army Corp of Engineers, Formerly Utilized Sites Remedial Action Program (FUSRAP).

In 1999, the USACE developed a Characterization Report for the site and samples were taken. It was found that there was radiological contamination found the overhead surfaces of two of the buildings. The floors and equipment of the site were below levels of contamination. In 2000, USACE selected the "Decontamination of Accessible Surfaces" to be the remediation alternative for the site. In the 2002 fiscal year, the site was removed from the FUSRAP and transferred to the Department of Energy. In 2000, eight more UST were removed. They contained: gasoline, kerosene, turpentine, used oil, cutting oil, motor oil, and heating oil.

According to Illinois Government News Network, on October 4, 2010, Magnesium Elektron experienced an explosion and a fire at their facility Magnesium oxide particles were dispersed into the air. The events started by one of the coil reheating furnaces. A water line ruptured and the water came into contact with molten magnesium furthering the events. An investigation into radiological concerns was completed at this time.

#### 4.0 References

Center for Disease Control, [www.cdc.gov](http://www.cdc.gov)

Illinois Environmental Protection Agency, [www.epa.state.il.us](http://www.epa.state.il.us)

Illinois Government News Network, [www.illinois.gov](http://www.illinois.gov)

Formally Utilized Sites Remedial Action Program. 2006. U.S. Army Corp of Engineers. 8 Dec 2011. <http://mvs.usace.army.mil/eng-con/expertise/fusrap-madison.html>

U.S. Environmental Protection Agency, [www.epa.gov](http://www.epa.gov)

United States Nuclear Regulatory Committee, [www.nrc.gov](http://www.nrc.gov)

## PRE-CERCLIS SCREENING ASSESSMENT CHECKLIST/DECISION FORM

This checklist can assist the site investigator during the Pre-CERCLIS screening. It will be used to determine whether further steps in the site investigation process are required under CERCLA. Use additional sheets for the narrative.

**Checklist Preparer:** JoAnn Morgando, Office of Site Evaluation Intern 2/6/12  
(Name/Title) (Date)  
 1021 North Grand Ave E., Springfield, IL 62794 (217) 524-1656  
(Address) (Phone)  
 joann.morgando@illinois.gov  
(E-Mail Address)

**Site Name:** Magnesium Elektron

**Previous Names (if any):** Spectralite Consortium Inc, Dow Chemical Company

**Site Location:** 1001 College Street  
(Street)  
 Madison Madison IL 62060-1084  
(City) (County) (ST) (Zip +4)  
 12  
(Congressional District)

**Latitude:** 38°41'2"N

**Longitude:** -90°10'5"W

With regards to the Latitude and Longitude, please provide the following information: Accuracy in Meters +/-, Collection Method, Reference Datum, Reference Point, Source Map Scale, Point/Line/Area; Collection Date; Verification Method (see attached).

Complete the following checklist. If "yes" is marked, please explain below.

	YES	NO
1. Does the site already appear in CERCLIS?	<input type="checkbox"/>	x
2. Is the release from products that are part of the structure of, and result in exposure within, residential buildings or businesses or community structures?	<input type="checkbox"/>	x
3. Does the site consist of a release of a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena, from a location where it is naturally found?	<input type="checkbox"/>	x

4.	Is the release into a public or private drinking water supply due to deterioration of the system through ordinary use?	<input type="checkbox"/>	x
5.	Is some other program actively involved with the site (i.e., another Federal, State, or Tribal program)?	x	<input type="checkbox"/>
6.	Are the hazardous substances potentially released at the site regulated under a statutory exclusion (i.e., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC, UMTRCA, or OSHA)?	<input type="checkbox"/>	x
7.	Are the hazardous substances potentially released at the site excluded by policy considerations (e.g., deferral to RCRA Corrective Action)?	<input type="checkbox"/>	x
8.	Is there sufficient documentation that clearly demonstrates that there is no potential for a release that could cause adverse environmental or human health impacts (e.g., comprehensive remedial investigation equivalent data showing no release above ARARs, completed removal action, documentation showing that no hazardous substance releases have occurred, EPA approved risk assessment completed)?	<input type="checkbox"/>	x
9.	Is there documentation indicating that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?	<input type="checkbox"/>	x
10.	Is there an apparent release at the site with no documentation of exposed targets, but there are targets on-site or immediately adjacent to the site or nearby (within 1 mile)?	x	
11.	Are there no releases or potential to release?		x

Please explain all "yes" answer(s), attach additional sheets or refer to narrative:

Site Determination:      X      Enter the site into CERCLIS. Further assessment is recommended (explain below)

☐      The site is not recommended for placement into CERCLIS (explain below).

**DECISION/DISCUSSION/RATIONALE:**

There have been various instances of leaking underground storage tanks in the site's history. Random samplings have been completed but no recent sampling information has been implemented. Following an explosion and fire in 2010, an investigation was completed on the part of the site that the incident occurred. The investigation in 2010 screened for radioactive substances. There is still a potential for environmental concerns that need to be addressed. There is an elementary school located within 0.1 miles of the facility; therefore, environmental concerns should be addressed. This could be done by furthering the investigation on to a PA.

In regards to question 5. The USACE, the Department of Energy, and the NRC have been involved with the site.



There have been previous investigations of radioactive substances and UST at the site. There are residential homes within 200-250 feet and Benard Elementary School is 0.1 miles away from the site, therefore, question 10 was marked yes.

EPA Regional Review and Site Assessment Decision

Check the box(es) that apply:

- ☐ Not a Valid Site or Incident
- ☒ Incident for Further Action Under CERCLA

Recommended Further Action:

- ☐ APA
- ☒ Full PA
- ☐ Combined PA/SI
- ☐ SI

Defer/Refer to:

- ☐ Removal Program
- ☐ State/Tribal Program
- ☐ RCRA
- ☐ Brownfields
- ☐ Other: \_\_\_\_\_

Regional EPA Reviewer:

DATRICK HAMBLEN / [Signature] 11/13/12  
Print Name/Signature Date

State Agency/Tribe:

[Signature] 11/14/12  
Print Name/Signature Date